

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Ralf BÖHNKE et al.

U.S. Serial No.: Filed Concurrently Herewith

Title of Invention: ADAPTIVE SUBCARRIER LOADING

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**PRELIMINARY AMENDMENT**

Assistant Commissioner for Patents  
Box Patent Application (35 U.S.C. 111)  
Washington, D.C. 20231

Sir:

Before the issuance of the first Office Action, please amend the above-identified application as follows:

**IN THE CLAIMS:**

Please amend claims 3-5, 7, 9, 11 and 16 as follows:

3. (Amended) Method according to claim 1,  
characterized in that

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the modulation scheme of subcarriers having a high power level is increased, whereas the modulation scheme of subcarriers having a poor power level is decreased departing from a default modulation scheme.

4. (Amended) Method according to claim 1,

characterized in that

the modulation schemes of the subcarriers are adapted such that the total number of coded bits per symbol is constant.

5. (Amended) Method according to claim 1,

characterized in that

along with the adaptation of the modulation schemes the transmission power of the subcarriers are adapted such that the total transmission power of all subcarriers remains unchanged.

7. (Amended) Method according to claim 1,

characterized in that

an adaptive loading information reflecting the adaptation of the modulation scheme of the subcarriers is exchanged between a transmitter (11) and a receiver (10).

9. (Amended) Method according to claim 1,

characterized in that

a plurality of subcarriers is bundled into groups and the same modulation scheme is applied for all subcarriers belonging to the same group.

11. (Amended) Computer software program product,

characterized in that

it implements a method according to claim 1 when run on a computing device of a wireless transmitting device.

16. (Amended) Device according to claim 14,  
characterized in that  
the adaptive loading calculation unit (8) bundles respectively a plurality of subcarriers into  
groups and applies the same modulation scheme on all subcarriers belonging to the same group.

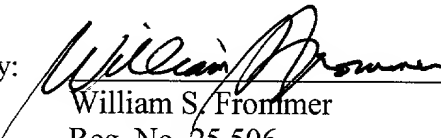
### **REMARKS**

Claims 1-17 remain in the application. Claims 3-5, 7, 9, 11 and 16 have been amended to  
eliminate multiple dependencies. Attached hereto is a marked up version of the changes made to  
claims 3-5, 7, 9, 11 and 16 by the current amendment. The attached page is captioned **"Version  
with markings to show changes made."** The filing fee has been calculated based upon these  
amendments to the claims.

Respectfully submitted,

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE****In the claims:**

3. (Amended) Method according to claim 1 ~~or 2~~,  
characterized in that  
the modulation scheme of subcarriers having a high power level is increased, whereas the  
modulation scheme of subcarriers having a poor power level is decreased departing from a  
default modulation scheme.
4. (Amended) Method according to claim 1 ~~anyone of the preceding claims~~,  
characterized in that  
the modulation schemes of the subcarriers are adapted such that the total number of coded bits  
per symbol is constant.
5. (Amended) Method according to claim 1 ~~anyone of the preceding claims~~,  
characterized in that  
along with the adaptation of the modulation schemes the transmission power of the subcarriers  
are adapted such that the total transmission power of all subcarriers remains unchanged.
7. (Amended) Method according to claim 1 ~~anyone of the preceding claims~~,  
characterized in that  
an adaptive loading information reflecting the adaptation of the modulation scheme of the  
subcarriers is exchanged between a transmitter (11) and a receiver (10).
9. (Amended) Method according to claim 1 ~~anyone of the preceding claims~~,  
characterized in that  
a plurality of subcarriers is bundled into groups and the same modulation scheme is applied for  
all subcarriers belonging to the same group.

11. (Amended) Computer software program product,

characterized in that

it implements a method according to claim 1 ~~anyone of the preceding claims~~ when run on a computing device of a wireless transmitting device.

16. (Amended) Device according to claim 14 ~~or 15~~,

characterized in that

the adaptive loading calculation unit (8) bundels respectively a plurality of subcarriers into groups and applies the same modulation scheme on all subcarriers belonging to the same group.

11. (Amended) Computer software program product,